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ABSTRACT

The hypothesized relationship between counseling skill and cognitive functioning has immense implications for counselor education. This study was conducted to develop and field test a procedure for depicting change in cognitive structure across time and to investigate the relationship between changes in cognitive structure and counseling skill. Seven first year students in a masters level counselor education program participated in the study during a 13-week practicum course. All students had completed a course in counseling theory and a course in counseling skills and strategies prior to enrolling in the practicum. Assessments were made during the first week in which students were seeing clients and during the last 3 weeks of the practicum. Assessment procedures included a procedure developed to provide a descriptive analysis of the skills that counselors used in interactions with clients, and a cognitive mapping task designed to assess counselor conceptualizations of how clients changed in counseling. The cognitive mapping task did provide evidence of change in the cognitive structure of the students during their practicum experiences. The purpose of the investigation was to field test the methodology. Based on the data obtained, the cognitive mapping task and the skill coding and analysis procedures appeared to have useful applications to both counselor education and to counseling research. (NB)

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Changes in the Conceptualizations and Skills of Counselling Practicum Students: A Pilot Investigation

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Changes in the Conceptualizations and Skills of Counselling Practicum Students: A Pilot Investigation

Much of what we know about counselling to date has been derived from process-product research. At one level this has involved investigating different treatments with different client groups (process) and testing the differential effects of these treatments over time (product). The guiding question here has been "What kinds of treatments work best for what types of clients?" At another level process-product research has centered around isolating counsellor and client characteristics, behaviours, personality traits, and attitudes associated with client change. The guiding principle here has been to determine what combination of counsellor and/or client charateristics and behaviours facilitate client change. Recently, some writers (e.g., Martin, 1984) are encouraging a movement away from a process-product research focus to one that examines mediational variables involved in counselling in a more descriptive fashion.

In part, the dissatisfaction with the process-product research tradition has been its limited generalizability to counselling practice. As counselling moves more towards its educational roots and away from an affiliation with clinical psychology (e.g., Carkhuff & Berenson, 1976; Hiebert, Martin & Marx, 1981; Ivey, 1983; Martin & Hiebert, 1985) there is an increasing acknowledgement that in counselling practice there are few opportunities to use "pure treatments". Instead, the desired goal usually is to design an optimal combination of interventions that will address unique client charateristics and

problem parameters. Thus the potential generalizability of traditional process-product research becomes increasingly more limited as client problems become more complex and as counsellors become more concerned about tailoring interventions to unique client characteristics. Therefore, there is some utility in exploring other research approaches that can tap the complexity of counsellor-client interactions.

A central focus in many counsellor education programs has been training counselling skills. The assumption is made that teaching counselling students a repertoire of basic counselling skills will help them be more effective in promoting client change. Such a view is consistent with the process-product tradition. However, some researchers (e.g., Hill, Charles, & Reed, 1981; Martin, 1985, 1987; Schmidt, 1984) are beginning to question whether mediational variables might play at least an equally important part in effective counselling and some evidence exists that counsellor conceptualizations of the counselling process exert considerable influence over the use of counselling skills (Hirsch & Stone, 1982; Kagan, 1975; Loganbill, Hardy, & Delworth, 1982). There appears to be growing emphasis that researchers should take into account counsellors' thinking processes as important causal elements in the initiation of behaviour (Howard, 1983, p.431).

There is increasing agreement that counselling involves a high level of cognitive functioning (Blocher, 1983; Martin,1984; Schmidt, 1984). Part of this cognitive functioning involves the moment-by-moment thinking that counsellors engage in while going

about their daily activities. This is referred to as cognitive process (see Martin, Martin, Meyer, & Slemon, 1986) and should be distinguished from cognitive structure (or conceptualization) which refers to hypothetical, structured networks in long-term memory. These conceptualizations are the organizing constructs or schemata that provide a framework to help people to make sense of, and add meaning to, their moment-by-moment thoughts. A counsellor's conceptualizations are particularly important for often counsellors act as surrogate organizers of information for clients (Wexler, 1974). It may be then, that a counsellor's cognitive processing ability and the nature of a counsellor's conceptualization could be at least as important as a counsellor's skill repertoire.

The hypothesized relationship between counselling skill and cognitive functioning has immense implications for counsellor education. Hill, Charles, and Reed (1981) point out that while much has been written about how to do basic skill training in counsellor education, relatively little has been written about training higher order cognitive functioning. Part of the reason for this may be that relatively little is known about the conceptualizations of beginning counsellors, how those conceptualizations change as counsellors acquire greater expertise, or in fact what sorts of conceptualizations or conceptual changes are associated with more effective counselling. It may be that as beginning counsellors master a wider repertoire of counselling skills their cognitive conceptualizations expand to accommodate their new skill. On

the other hand, when beginning counsellors experience difficulty mastering new skills a restrictive cognitive framework might be contributing to that difficulty. However, all of this is speculation until some descriptive information is obtained regarding the nature of the cognitive conceptualizations and skill repertoires of counselling students. This paper reports one such descriptive investigation.

Method

Purpose

The main purposes of the study were to: (a) develop and field test a procedure for depicting change in cognitive structure across time and (b) investigate the relationship between changes in cognitive structure and counselling skill.

Sample

Nine first year students in the masters counsellor education program at Simon Fraser University participated in this study on a voluntary basis. Two students had to be eliminated from the sample because of difficulties with data collection. In the end there were five females and two males, ranging in age from 22-35 years. Prior to starting their master's programs, three students had worked in a social service agency as counsellors for 4 years, one student had taught school for 5 years, and two had been volunteer counsellors for one year in lay counsellor settings.

Setting

The study took place within the context of a 13 week practicum course. All students had completed a course in

counselling theory and a course in counselling skills and strategies prior to enrolling in the practicum. The practicum was 13 weeks long and students were expected to spend 1 1/2 days per week at the practicum site, completing a minimum of 50 client contact hours. In addition, students attended a 5 hour weekly seminar on campus, focusing on substantive issues related to their practicum and peer supervision of their work with clients. The practicum settings included the counselling departments of two secondary schools, one mental health centre, a psychiatric out-patient centre, a family counselling centre, and a university counselling service. The assessments described below were administered at the practicum site during the first week in which students were seeing clients (usually about 2-3 weeks after the practicum began) and during the last 3 weeks of the course.

Dependent Measures

Two assessment procedures were used in this study. First, a procedure was developed to provide a descriptive analysis of the skills that the counsellors used in their interactions with clients. Second, a cognitive mapping task was designed to assess counsellor's conceptualizations of how clients changed in counselling.

Counselling skill. Martin and Hiebert's (1985) taxonomy of counselling skills was used to describe the interactions between counsellors and clients. This taxonomy was taught in a course in Counselling Skills and Strategies that was prerequisite to the practicum. The taxonomy uses three broad categories of

counselling skills: structuring skills, used to enhance client meaningfulness, soliciting skills used to obtain client information or initiate client overt practice, and reacting skills used to give client feedback on overt practice or to facilitate client insight into meaning or affective components of the client's verbal statements. This study involved the most frequently used skills from the three skill categories. These included: overviewing, summarizing, and giving information (structuring skills); open questions, closed questions, probing, leading, confronting, and encouraging client responsibility (soliciting skills); and descriptive praise, informational feedback, paraphrasing client verbal statements, reflecting meaning, reflecting affect, incorporating client resonses, and counsellor self-disclosure (reacting skills). In addition, five other skill categories were added: each of the three skill clusters had an "other" category to be used when the counsellor statement could not be clearly labeled with a specific skill name but the counsellor's comment was consistent with the purpose of that skill cluster, minimal encouragers, and uncodable.

Transcripts of the counselling sessions were prepared from audiotapes of the session. The transcripts were then coded according to the procedure described by Hiebert (1985). A cross-hatched grid was prepared with the skill categories listed down the left hand side and numbers listed across the top. A check mark was placed in the firt column in the row corresponding to the first skill the counsellor used. The

second skill was coded in column two in the row corresponding to the second skill the counsellor used, and so on.

The transcripts were coded independently by three trained raters. The raters all had been instructed previously in Martin and Hiebert's (1985) counselling skill taxonomy. The transcripts were coded in a random order with the three raters not knowing which of the transcripts was from the beginning of the practicum and which was from the end. The raters first went through the transcripts and divided the counsellor statements into discrete skills. One counsellor statement might contain several different skills in sequence. For example, the counsellor statement "You completed the self-monitoring homework exactly as we agreed. Did you encounter any problems doing it?" consists of "descriptive praise" followed by a "closed question". The raters then coded the statements as representing one of the categories listed above. In 95% of the cases the three raters agreed on dividing the counsellor statements into discrete skills. There was 85% agreement across the three raters regarding which of the three categories the skill belonged to, and 80% agreement regarding assignment of a specific skill name. In cases where there was disagreement between the three raters the first author served as the arbitrator.

Several measures derived logically from the focus in the practicum. One purpose of the practicum was for students to become fluent in using a large repertoire of skill with clients. Therefore, a balance of skills across the three skill categories

was thought to be desirable. Also, it was anticipated that as counsellors became more proficient in using their skills with clients, the number of "uncodables" would decrease, i.e., the skills the counsellors used would fall more clearly into one of the skill areas. It was expected also that reliability between raters would be higher at the posttest because of greater precision in skill use by the counsellors. Counsellors were encouraged in their practicums to strive for consistency between their purpose in counselling and the skills they used. Therefore, insofar as the purpose of the counselling interactions was information gathering or exploration, one would expect a higher proportion of open questions than closed questions. A simple ratio of open to closed questions was taken as a measure of this area. Similarly, in their practicums counsellors were encouraged to check out their perceptions and inferences with their clients to promote congruence between the meanings that counsellor and client derived from their interactions. Therefore, one would expect a greater incidence of meaning and affect reflects and a decrease of simple verbal paraphrasing as counsellors moved towards this goal. A simple ratio of meaning plus affect reflects to verbal paraphrasing was taken as a measure of this area.

Cognitive mapping task (CMT). The CMT consisted of two parts. First, participants were asked to indicate what concepts they thought were important in helping clients change during counselling. At the first seminar class students were given a sheet of paper with the following instruction at the top:

"Read the following question and then list the first 20 words that come to your mind."

"What happens to help clients change during counselling?"

The second step was to determine the relationships between the constructs in the counsellor's thinking. The words generated in step one were transferred to a set of gummed stickers, like those used to attach notes to correspondence, with one word on each sticker. The counsellor was then seated before a 24" x 24" sheet of laminated graph paper and given the following instructions:

"Here is a list of words that have been used to describe 'What happens to help clients change during counselling.' The words on this list have been transferred to these stickers, one word on each sticker.

1. Arrange the stickers on the graph paper provided in a manner that indicates how the concepts they represent are related in your thoughts. If two concepts are related strongly, place their stickers close to each other. If they are related weakly, place their stickers further apart.
2. Now, use the china marker to draw connecting lines between stickers that represent related concepts. You may rearrange stickers and lines until you are satisfied that what you have produced is a good representation of your understanding of these concepts and their relationships. A dry cloth is provided for use in altering marker lines.

3. Finally, draw a circle around any clusters of concepts: i.e., concepts that seem to be part of some larger concept, and label each circle you have drawn. (This procedure similar to that suggested by Martin, 1985.)

The CMT yielded six dependent measures: (a)integration = # of links/# of stickers, (b) diversity = # of clusters, (c) extent = # of stickers, (d) personal involvement = # of counsellor referenced stickers + # of links emanating from those stickers, (e) affect = # of affective stickers/total # of stickers, and (f) centrality = # of stems emanating from each sticker.

Results

Cognitive Mapping Task

Our initial interest was to examine the CMT's in a descriptive fashion using the dependent measures described above to identify changes between the first and last CMT. These measures are reported in Table 1. The results of the CMT are shown in Figures 1-7. (For the purposes of this paper, a McDraw routine was used to provide an exact scale reduction of the original CMT completed by the counsellor.)

Insert Table 1 and Figures 1-7 about here

Readers undoubtedly will be struck, as we were, with the richness of observations and multitude of interpretations that these CMT's afford. Our observations are discussed below.

Counsellor #1. The Integration Score for Counsellor #1 increased slightly, from 1.2 - 1.4 from CMT #1 to CMT #2, a finding that is confirmed by inspecting Figure 1. The "Counsellor Behaviour" cluster has expanded to include modelling and instruction, and modelling has moved from "Counselling Process" to "Counsellor Behaviour". Also, "Self-acceptance" had the highest Centrality Score in CMT #1, but "Learning", "Practice", and "Motivation" had the highest Centrality Scores in CMT #2.

Counsellor #2. The CMT's for Counsellor #2 (see Figure 2) suggest a shift to being more outcome oriented. CMT #2 contains an outcome cluster, "More Acceptable Life Situation" that was absent in CMT #1. The "Prerequisite" cluster has expanded to include "Client Desire" while still retaining "Relationship" and "Expectancy". The Integration Score decreased from 1.1 to .9, while the Diversity Score increased from 2 to 3 with the addition of the outcome cluster. The "Practice" item had the highest Centrality Score in CMT #1, while "Successful Responding", an item in the Outcome cluster had the highest Centrality Score in CMT #2, followed by "Practice", "Instruction", "Expectancy", and "Change in Self-Efficacy".

Counsellor #3. Counsellor #3 appars to have become a more linear thinker from T1 to T2. (See Figure 3.) The Integration Score decreased from 1.3 to 1.1 and the Diversity Score decreased from 3 to 2. In CMT #1 there are three seperate clusters realated only through "Modelling" and "Guiding". In CMT #2 these two items have been split, with "Guiding" moving

into the "Client Control" cluster and "Modelling" moving to "Counsellor Control". "Guiding" and Modelling" occupy the most central position in CMT #1 providing the link between the three clusters, and within the clusters, "Hang In There", "Genuine", and "Contact" had the highest Centrality Scores. However, "Focussing", "Guiding", "Support", and "Tasks", all part of "Client Control", have the highest Centrality Scores in CMT #2.

Counsellor #4. For Counsellor #4, CMT #2 appears more "integrated" and "together" (see Figure 4), an observation born out by an increase in Integration Score from .9 to 1.1. "Skill" and "Learning" have the highest Centrality Scores in CMT #1, but "Modelling" has the highest Centrality Score in CMT #2 followed by "Faith" and "Caring". The central role of "Modelling" in CMT #2 in apparent,while "Faith" can be sen as having a mediating position with respect to constructs in "Deep Structure." It is interesting to note as well that "Learning", "Practice", "Motivation", "Persuasion", and "Modelling" were in a linear relation in CMT #1, "Skill", "Practice", "Learning", and "Modelling" are depicted as more interrelated in CMT #2.

Counsellor #5. For counsellor #5, CMT #2 also is more integrated, with Integration Scores increaseing from 1.6 to 1.8. There also is an attempt to relate the four clusters in CMT #2 and all of the items are contained in a cluster. "Regular Contact" has move from being an unrelated construct to an integral part of "Counsellor/Client Relationship" in CMT #2. The "Goals" and "Rehersal" clusters in CMT #1 have been merged and then seperated into "Attidudes/Activites" and "Focus".

"Focus" is a central clluster in CMT #2, providing a link between the other three clusters.

Counsellor #6. For Counsellor #6, the Integration Score was unchanged and the Diversity Score decreased from 5 to 3. (See Figure 5.) CMT #2 appears substantially more "sorted out" and "less confused" than CMT #1. "Change in Perspective" occupies a central position in both CMT's, but in CMT #2 awareness has assumed a more central role as well, interconnecting with elements in both the "Positive Regard" and "Learning Paradigms" clusters. "Structure" has replaced "Feedback" as the central construct in the "Learning Paradigm" cluster and plays a mediating role with respect to the other constructs in that cluster. "Intimacy" has assumed a similar mediating role in the "Positive Regard Paradigm" cluster. Also, the constructs in the "Positive Regard" cluster in CMT #2 are more consistent with mainstream Rogerian thinking that the constructs in the "Client Centered" cluster in CMT #1.

Counsellor #7. The Integration Score for Counsellor #7 decreased from 2.0 to 1.3 and the Diversity Score increased from 1 to 4. (See Figure 7.) The four clusters in CMT #2 are related in a linear manner, with "Issues" being the link between the other three clusters. "Relationship" and "Feedback" have the highest Centrality Scores in CMT #1, while "Problem Context" has the highest Centrality Score in CMT #2.

Counsellor Skill

The skill coding and data aggregation took place as described earlilier. We used these results to help describe the

sorts of specific changes that took place across time in the skill our counsellors used with their clients. (See Table 2.) These were then compared to the cognitive changes described above.

Insert Table 2 about here

Counsellor #1. Counsellor #1 showed substantial skill change from T1 to T2. The use of structuring skills decreased by 30%, while soliciting skills increased by 35% and reacting skills increased by 29%. Uncodables remained unchanged. Also, the ratio of Open to Closed Questions remained the same. the ratio of meaning/affect reflects to paraphrases doubled, and leading was cut in half. This increase in soliciting and reacting skills fit well with the increased emphasis on "Counsellor Behaviour" that the CMT's suggest.

Counsellor #2. Counsellor #2 showed an interesting pattern of skill change. Structuring skills increased by 43% and uncodables by 34%, while soliciting decreased by 35% and reacting decreased by 23%. The ratio of Open to Closed Questions halved while the ratio of Meaning/Affect reflects to paraphrases decreased by a factor of 5. The increased emhasis on outcome in the CMT's seems to have been accompanied by a decrease in the counselling skills usually associated with producing client change.

Counsellor #3. The pattern of skill change for Counsellor #3 is different from the previous two. Structuring

skills decreased by 40% and uncodables remained unchanged, while soliciting skils increased by 30% and reacting skills increased by 250%. The ratios of Open to Closed Questions and Meaning/Affect reflects to Paraphrases remained unchanged. The marked increase in reflecting skills at T2 is likely indicative of the large proportion of variables thought to be under "Client Control" in CMT #2.

Counsellor #4. For Counsellor #4, structuring skills decreased by 11%, reacting skills decreased by 11%, and uncodables decreased by 31%, while soliciting skills increased by 53%. The ratio of Open to Closed Questions trippled and the ratio of Meaning/Affect Reflects to Paraphrases remained unchanged. The more integrated picture on CMT #2 seems to be accompanied by a more balanced mixture of skills and a greater emphasis on soliciting skills that promote active client involvement in counselling.

Counsellor #5. For Counsellor #5, structuring skills increased by 75% and uncodables increased five-fold, while soliciting skills decreased by 74% and reacting skills remained unchanged. The ratio of Open to Closed Questions decreased by 50% and the ratio of Meaning/Affect Reflects to Paraphrases decreased by 77%. Leading decreased by a factor of 5 at T2. Thus the greater integration on CMT #2 for Counsellor #5 has been accompanied by an increased structure in the counselling session and an increased attempt to make the process more central to the client's frame of reference (i.e., less leading).

Counsellor #6. For Counsellor #6, structuring skills

decreased by 33% and soliciting skills remained unchanged, while reacting skills increased by 16% and uncodables doubled. The ratio of Open to Closed Questions remained unchanged and the ratio of Meaning/Affect Reflects to Paraphrases decreased seven-fold. For Counsellor #6, there has not been an increased use of the sorts of skills one would expect from someone experiencing a cognitive shift to a more Rogerian orientation depicted in the CMT's.

Counsellor #7. For Counsellor #7, structuring skills decreased by 45% and soliciting skills decreased by 63%, while reacting skills increased by 37% and uncodables increased four-fold. The ratio of Open to Closed Questions decreased by 18% and the ratio of Meaning/Affect Reflects to Paraphrases decreased five-fold. Thus this counsellor's cognitive shift to considering "Issues" as more central in counselling was accompanied an increase the reflecting skills that allow for perception checking and a decrease in soliciting skills that promote open exploration.

Summary observations

Obviously, space does not permit a detailed discussion of the observations that can be made, and each reader likely will discover important observations that we missed, or consider some of the observations we made as being less important than others. However, probably most readers will agree that the CMT's provide convincing evidence of change in the cognitive structure of these students during their practicum experiences. Also, as a way for providing a descriptive analysis of counselling skill,

the procedure we used has utility. Other counsellors operating from differing theoretical or ideological positions might wish to look different ways to assess desirable changes in skill use, however, the coding and data aggregating procedure reported here probably has use both in research and counsellor supervision. The pilot nature of this investigation meant that our procedure was not flawless. Below, we share some of the procedural insights we gained.

First, we discovered that great care must be taken with the administration of the CMT in order to facilitate scoring. For example, in come cases, e.g., Counsellor #7 CMT #1, a sticker was connected to a circle. This presented a scoring problem in determinind the relationship between the first sticker and the ones inside the cluster. Our decision was to score the CMT as if the sticker was connected with all the items inside the cluster, however, we have no way of being sure that this represents accurately the way the subject would see the relationship. In more recent work with this procedure, we have begun to administer the CMT as a sequence of three distinct steps with the subject completing each step before proceeding to the next. This has eliminated the problem we encountered in this pilot.

Second, we think that the "Extent Score" is a useful measure conceptual richness, but that the way of deriving them should be changed. We asked our subjects to give us the "first 20 words that cameto their minds". Clearly, some subjects interpreted that request literally and tried to produce 20 items

even though some of the last ones on the list were only marginally important. Other subjects simply stopped after they had all the items they thought were important and were unconcerned that they did not have 20 of them. A better way would have been to set a time limit on the task, say of 1 minute, so that we would get a spontaneous list of "important words", but one that was not forced. Further, the number of elements should be derived each time, not just once. We elected to make our subjects use the same items in their CMT's on each occasion in order to facilitate comparisons across time. Some of our subjects found this frustrating in that some of the items no longer seemed centrally important while others had taken on new meaning. After our initial experience with this procedure we feel that the loss of comparability would be marginal and worth the increase in ecological validity.

Finally, as we examined the results of the CMT it became evident that it would be useful to develop a metric by which we could determine the degree to which two concepts were associated with each other in the counsellor's cognitive map. This would allow a means for quantifing the relationships on the CMT. After much trial and error a measure of association was developed, based on Anderson's (1983) theory of spreading activation, that took into account the proximity of two concept on the CMT and the number of interconnecting links and alternate pathways between any two concepts. This procedure is described below.

Association Measure

The Measure of Association between two items on a CMT was taken as the sum of the reciprocals of the number of links in all possible pathways. For example, in Figure 8, there are four possible pathways from B to C, B-C (1 link), B-A-C (2 links), B-D-C (2 links), and B-E-D-C (3 links). Therefore the association between B and C would be:

1/1 + 1/2 + 1/2 + 1/3 = 2 1/3.

Insert Figure 8 about here

The validity of this measure of association was determined by using multidimensional scaling techniques. First, the association between all possible pairs of points for each CMT was computed according to the procedure described above. Then the factor structure resulting from the MDS was compared to the original CMT's. We reasoned that if our measure of association was valid, the factor structure from the MDS should approximate closely the original CMT from which the measures were obtained.

The results of the MDS provided mixed support for our measure of association. In seven of the cases (CMT's 1-2, 2-1, 3-1, 3-2, 5-1, 7-1, 7-2, the first number representing the counsellor and the second number representing the time) the structure from the MDS matched almost exactly the picture depicted in the original CMT. In three cases (CMT's 4-2, 5-2, 6-1) there was some resemblance between the two, but we suspected that a picture drawn from the MDS results would not be judged by uninformed raters as highly similar to the original

CMT. In four cases (CMT's 1-1, 2-2, 4-1, 6-2) the structure from the MDS bore little relationship to the original CMT's. We still feel strongly that it would be useful to be able to quantify the degree of association between two items on a CMT, however, more developmental work need to be done with this task.

Discussion

One purpose of this pilot investigation was to field test our methodology. Based on the data we report above we think the CMT and the skill coding and analysis procedures have useful applications to both counsellor education and counselling research. The CMT seems to be a useful way to assess counsellor conceptualizations of the client change process and probably could be used to tap other sorts of counsellor conceptualizations like the factors important in determining what constisutes the client problem or what factors should be considered in planning client change interventions. The skill coding procedure is a useful way to make counsellor-client interactions more open to examination. However, the large amount of data in both cases poses some potential difficulties. Even though our main goal was to examine in a descriptive and qualitative fashion the changes that took place between the beginning and end of the practicum, we think the quantitative measures we derived for both the CMT and the Skill Coding helped to focus our discussion. Others might derive different measures that would capture more adequately the focus in their counsellor education programs, however, the process of trying to quantify relevant aspects of cognitive conceptualization and counselling

skill was a useful one for us.

Finally, a few general observation can be made from our data. Generally speaking, in cases where counsellors displayed more integration across the two CMT's this was accompanied by desirable skill changes. That is to say a more balanced use of skills, an increase in the ratio of Open to Closed Questions, and an increase in the ratio of Meaning/Affect Reflects to Paraphrases was evident in cases where the CMT became less complicated and contained fewer items in clusters by themselves. In some cases, there appeared to be mismatches between the way counsellors were viewing the counselling process and the skills they were using. In these cases one would predict frustration on the counsellor's part when client progress was not going as intended. Further, sharing the CMT and skill coding with counsellors in these sorts of situations could help the counsellor behave more consistently with his or her conceptual framework.

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Table 1

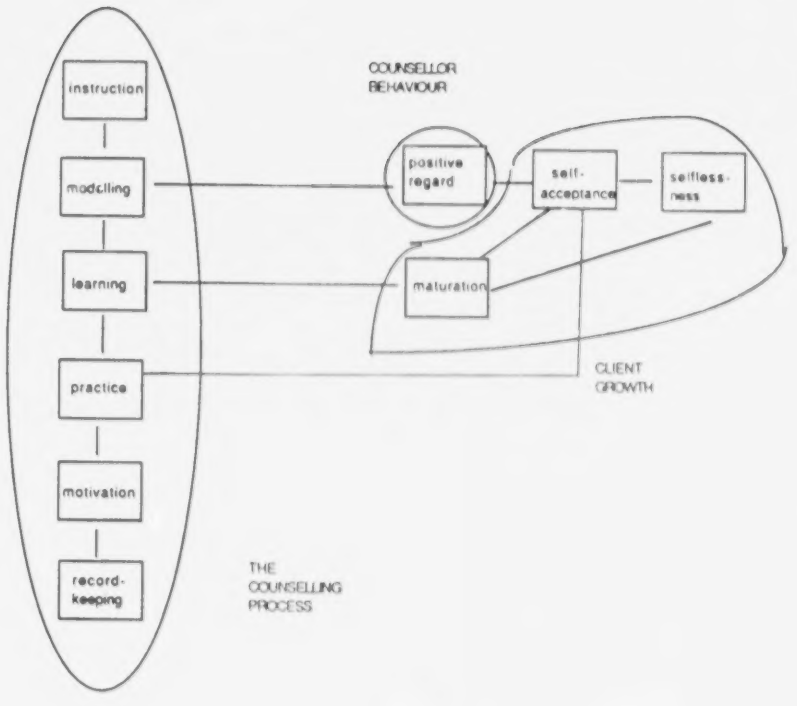
Cognitive Mapping Scores For Nine Counsellors

Counsellor	Test Time	Integration	Diversity	Extent	Personal Involvement	Affect
1	pre	1.2	3	10	0	.2
	post	1.4	3			
2	pre	1.1	2	8	0	0
	post	.9	3			
3	pre	1.3	3	20	0	.1
	post	1.1	2			
4	pre	.9	2	10	0	.3
	post	1.1	2			
5	pre	1.6	4	17	0	.2
	post	3.9	4			
6	pre	1.3	5	15	0	.3
	post	1.3	3			
7	pre	2.0	1	8	0	0
	post	1.3	4			
Average	pre	1.3	2.9	12.6	0	.16
	post	1.6	3.1			

Table 2

Proportiions of Counselling Skills Used by Seven Counsellors

Counsellor	Time	Structuring	Soliciting	Reacting	Miscellaneous	Total
1	pre	17(9.1)	58(31.0)	44(23.5)	68(36.4)	187
	post	12(6.5)	76(41.3)	55(29.9)	41(22.3)	184
2	pre	5(7.8)	23(35.9)	14(21.9)	22(34.4)	64
	post	16(13.2)	29(24.0)	21(17.4)	55(45.5)	121
3	pre	50(30.9)	25(15.4)	9(5.6)	78(48.1)	162
	post	66(18.9)	68(19.4)	63(17.9)	154(43.9)	351
4	pre	27(13.8)	57(29.2)	53(27.2)	58(29.7)	195
	post	21(12.4)	76(44.7)	38(22.4)	35(20.6)	170
5	pre	13(8.7)	78(52.3)	46(30.9)	12(8.1)	149
	post	21(15.0)	19(13.6)	40(28.6)	60(42.9)	140
6	pre	12(17.6)	26(38.2)	16(23.5)	14(20.6)	68
	post	20(12.6)	34(21.4)	33(20.8)	72(45.3)	159
7	pre	9(19.1)	26(55.3)	7(14.9)	5(10.6)	47
	post	21(10.5)	41(20.5)	41(20.5)	97(48.5)	200
Total	pre	133	293	189	257	872
	post	177	343	291	514	1325



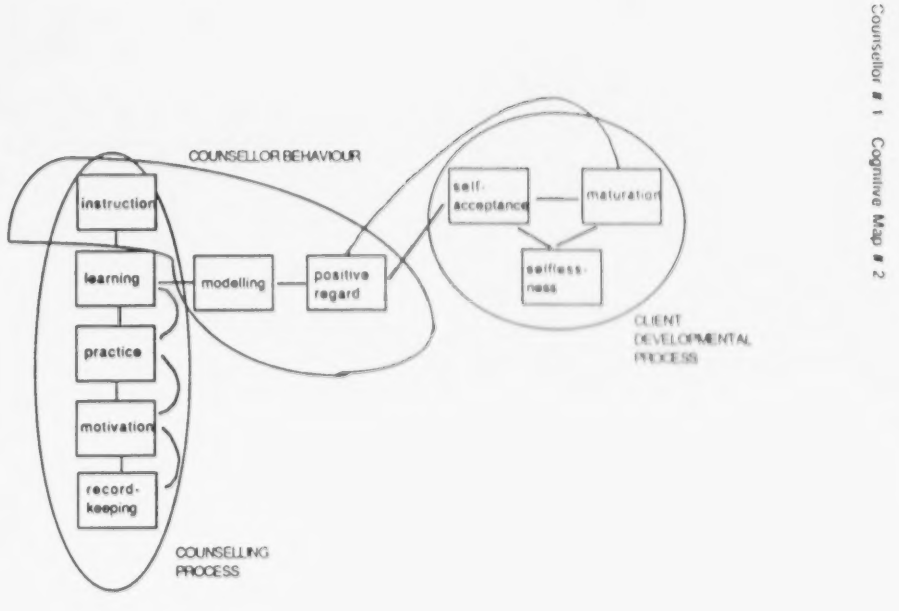
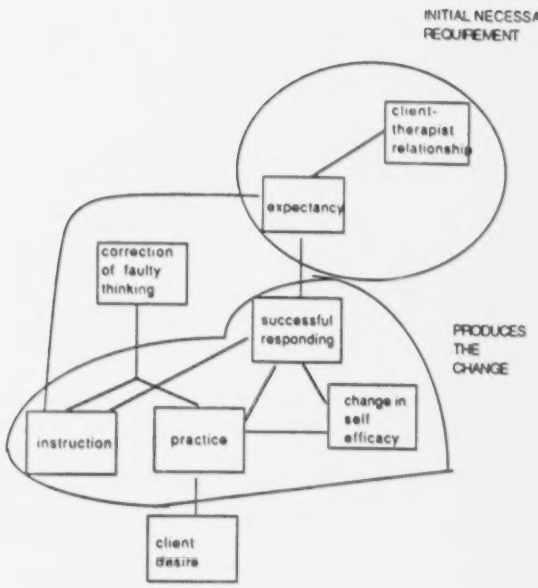


Figure 1. Cognitive Maps for Counsellor # 1



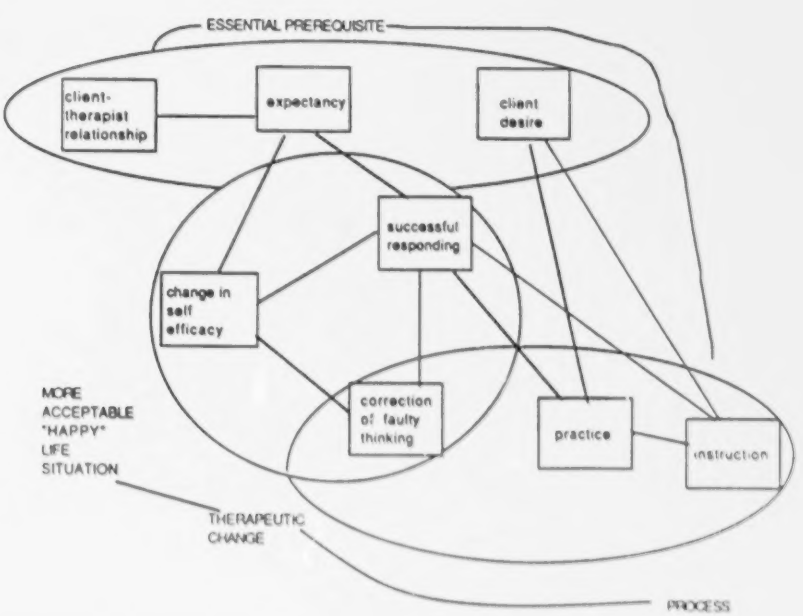
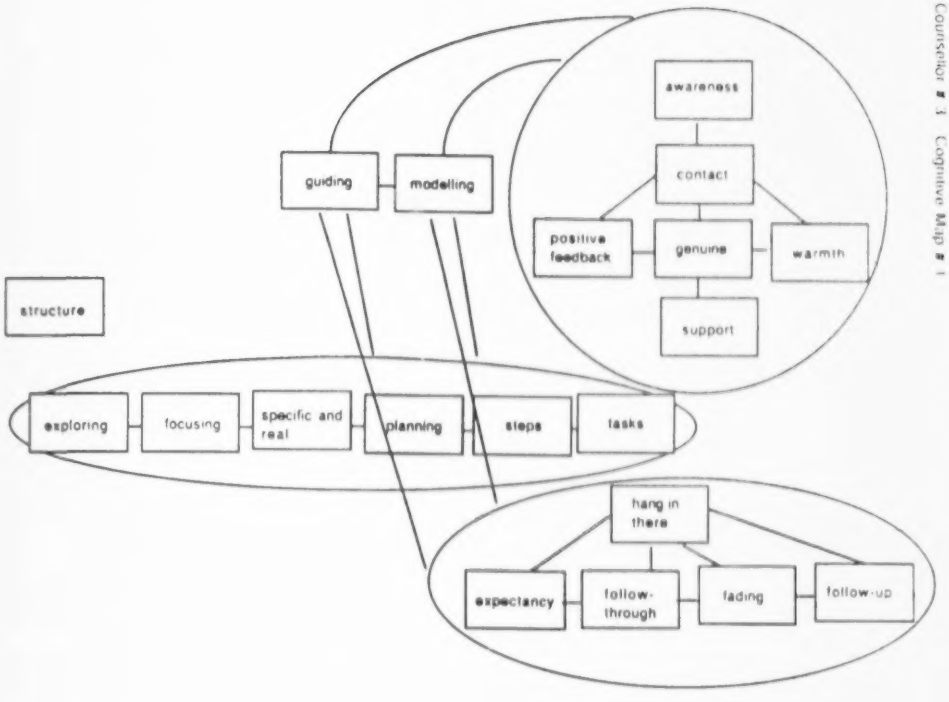


Figure 2. Cognitive Maps for Counsellor # 2

Counsellor # 3 Cognitive Map # 1



Counsellor # 3 : Cognitive Map # 2

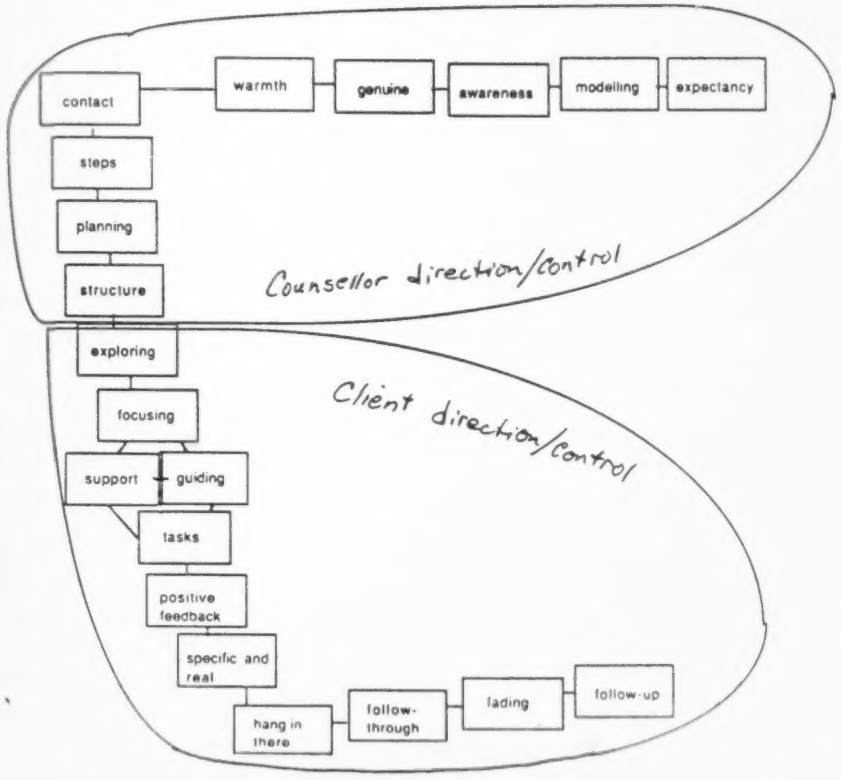
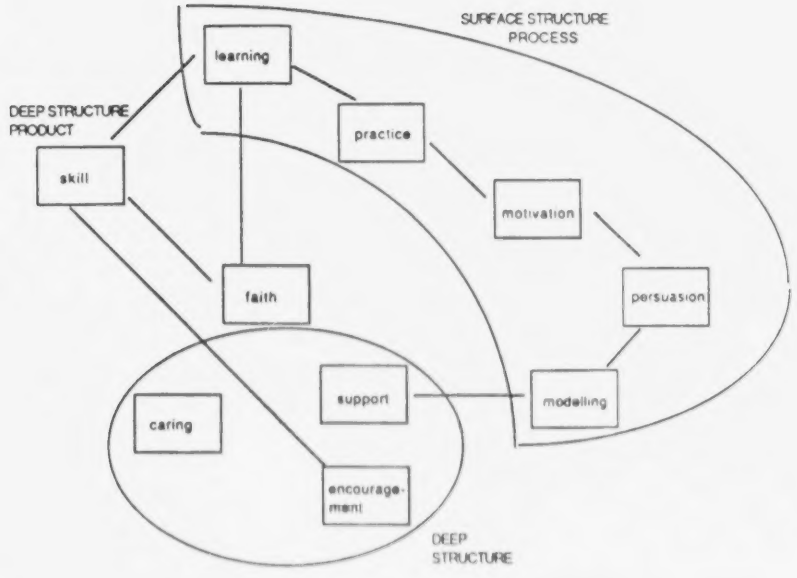


Figure 3. Cognitive Maps for Counsellor # 3

Counsellor # 4 - Cognitive Map # 1



Counsellor # 4 Cognitive Map # 2

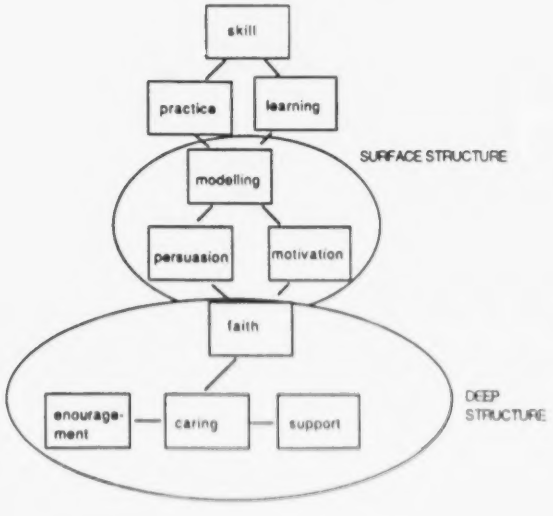
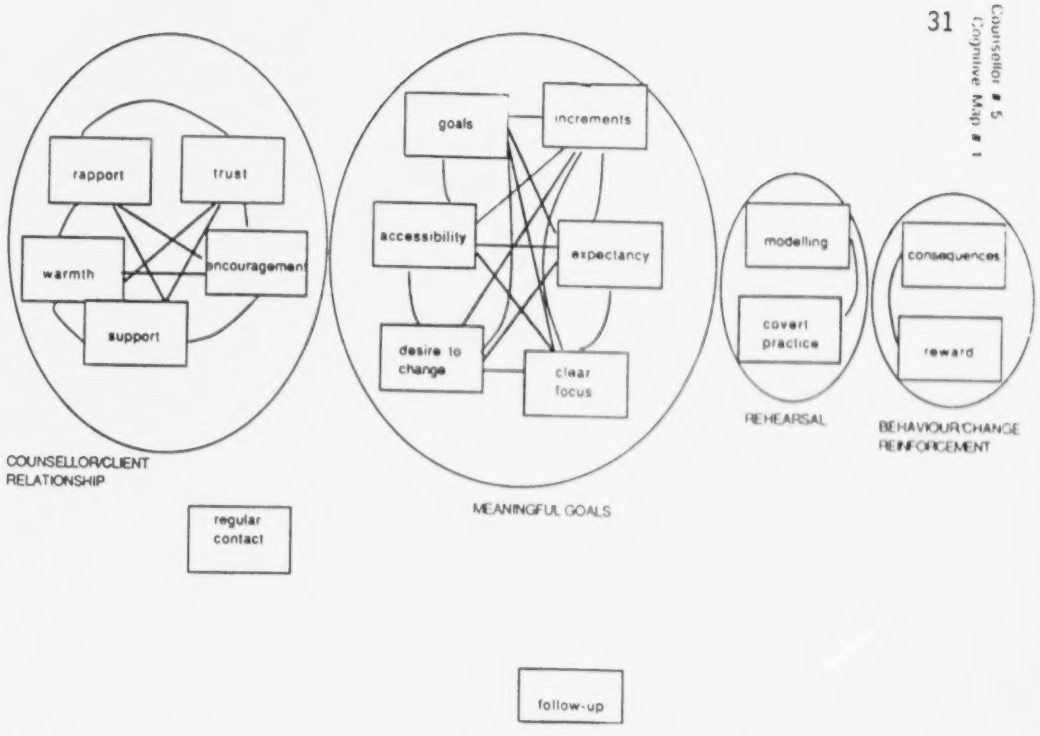


Figure 4. Cognitive Maps for Counsellor # 4



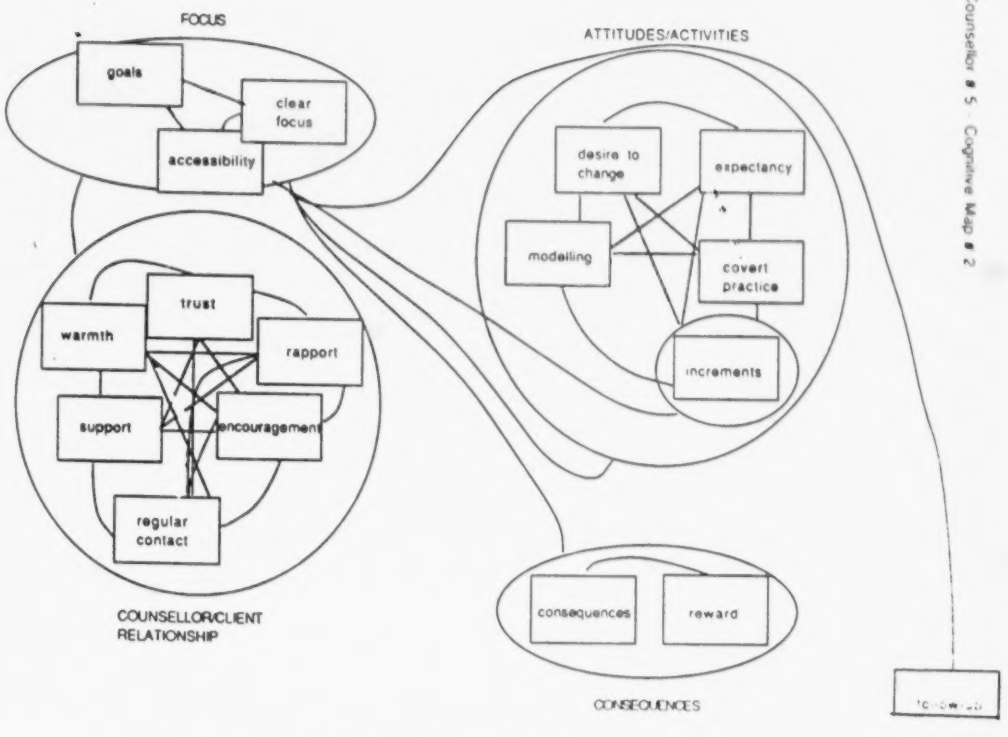
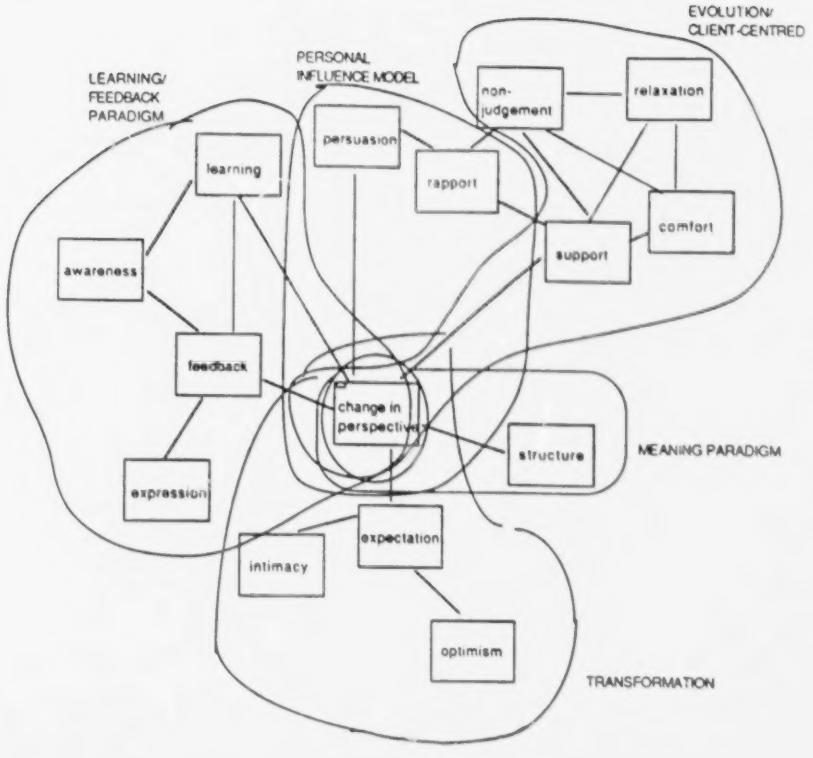
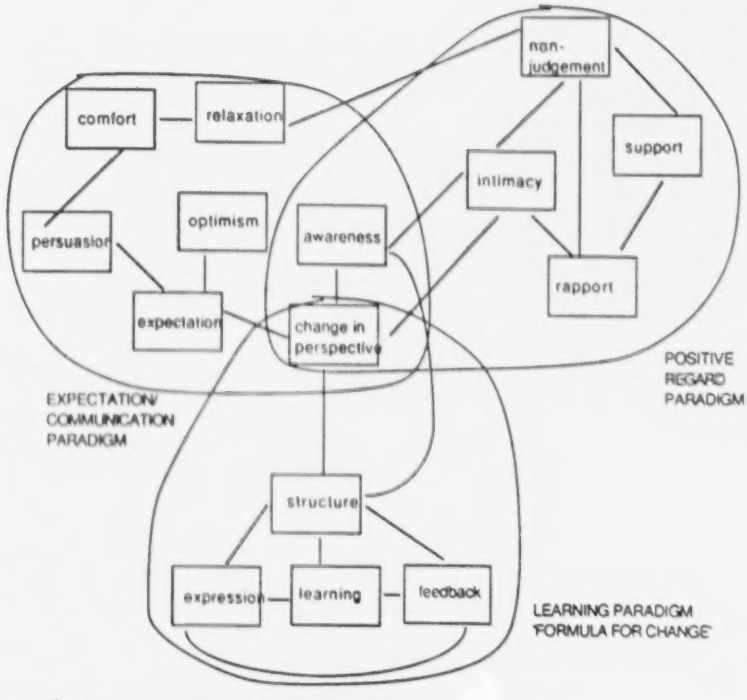


Figure 5. Cognitive Maps for Counsellor # 5



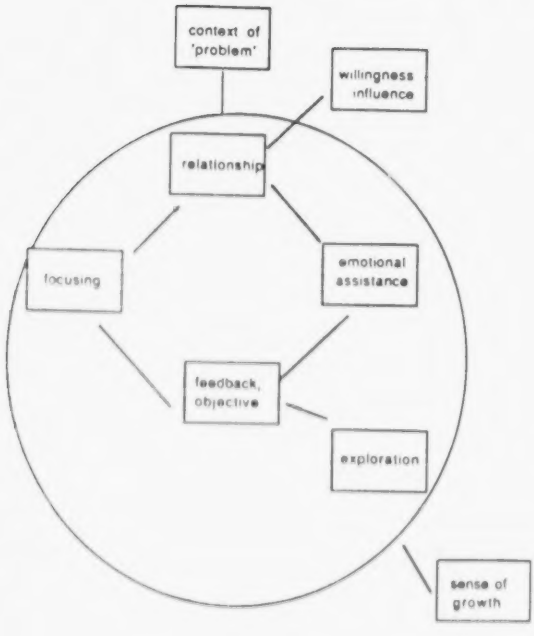
Counsellor # 6 Cognitive Map # 1



Counsellor # 6 - Cognitive Map # 2

Figure 6. Cognitive Maps for Counsellor # 6

Counsellor # 7 - Cognitive Map # 1



Counsellor # 7 - Cognitive Map # 2

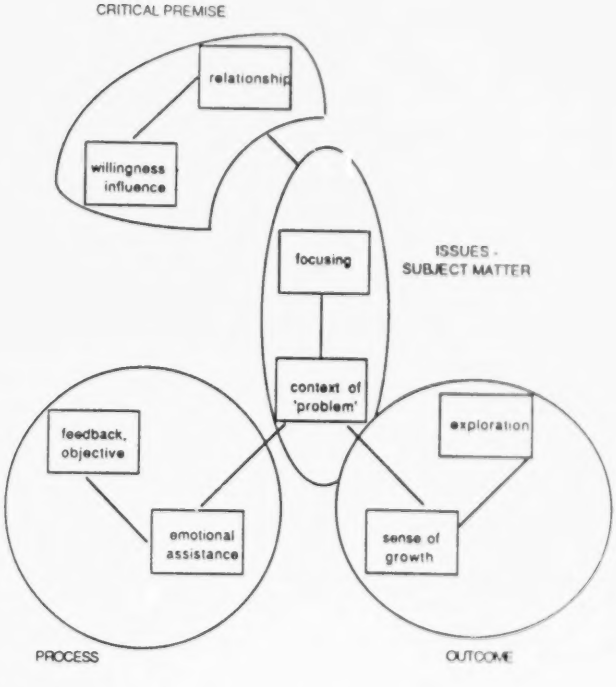


Figure 7. Cognitive Maps for Counsellor # 7

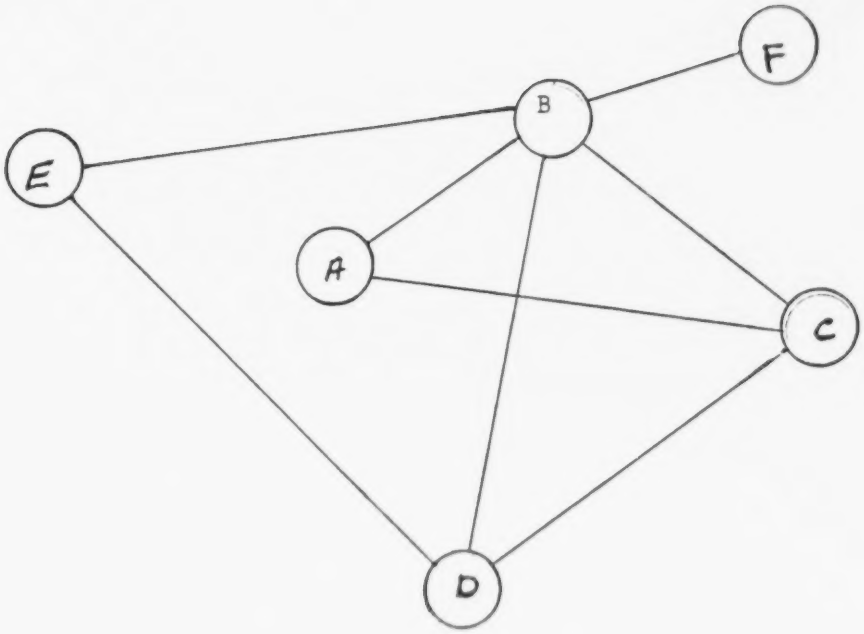


Figure 8. Illustrative Cognitive Map